

P-ARBED-081/WO

CLAIMS

1. A king pile for retaining walls with a web (12) and two parallel flanges (14, 16) carried by the web (12), said flanges (14, 16) being fitted with connection means (20, 44, 70) along their longitudinal edges, characterized in that said flanges (14, 16) are strengthened, on the side opposite the web (12) over the major part of their width (B), by an extra material thickness (24, 26), which starts only at a certain distance from the longitudinal edges of the flange (14, 16), allowing the flange ends (21) of smaller thickness (e), carrying said connection means (20, 44, 70), to remain.
2. King pile as claimed in claim 1, wherein said connection means (20, 44, 70) comprise an enlargement (20) of triangular cross section, which is carried by one of said flange ends (21) of smaller thickness.
3. King pile as claimed in claim 2, wherein the maximum thickness (e*) of said extra material thickness (24, 26) is greater than the height of said enlargement (20).
4. King pile as claimed in claim 1, wherein at least one of said flange ends of smaller thickness has a corrugated longitudinal profile to form said connection means.
5. King pile as claimed in claim 1, wherein said connection means comprise an interlock section (44), for a sheet pile, welded end to end on a lateral face of one of said flange ends (21) of smaller thickness.
6. King pile as claimed in claim 1, wherein said connection means comprise an interlock section (70), for a sheet pile, which is carried by a U-shaped

section (72) threaded onto one of said flange ends (21) of smaller thickness, said U-shaped section (72) being fixed to this flange end (21) by two corner welds (74, 74').

- 5 7. King pile as claimed in claim 1, wherein said extra material thickness (24) on a flange (14) is divided in two by a longitudinal groove (60) running above the web (12).
- 10 8. King pile as claimed in any one of the previous claims, wherein said extra material thickness (24, 26) is symmetrical about the mid-plane (11) of the web (12).
- 15 9. King pile as claimed in any one of the previous claims, wherein the ratio of the thickness (e) of said flange ends (21) to the thickness (s) of the web (12) is between 1.0 and 1.7.
- 20 10. King pile as claimed in any one of the previous claims, wherein the ratio of the maximum thickness (e*) of the flange (14, 16) at said extra material thickness (24, 26) to the thickness (e) of said flange ends (21) is between 1.5 and 4.0.
- 25 11. King pile as claimed in any one of the previous claims, wherein the thickness (e) of said flange ends (21) is between 10 mm and 25 mm.
- 30 12. King pile as claimed in any one of the previous claims, wherein the maximum thickness (e*) of the flange (14, 16) at said extra material thickness (24, 26) is between 40 mm and 60 mm.
13. King pile as claimed in any one of the previous claims, wherein the ratio of the web depth (H) to the flange width (B) is at least equal to 2.
14. Retaining wall, wherein at least two king piles (10, 10') as claimed in any

one of the previous claims are connected at their flanges (14, 16, 14', 16') by interlock sections (18), and said extra material thicknesses (24, 26, 24', 26') form bearing surfaces (27, 29, 27', 29'), which define a bearing plane located in front of said interlock sections (18).

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15. Retaining wall as claimed in claim 14, comprising at least one wale (31) bearing on said bearing surfaces (29, 29') formed by said extra material thicknesses (26, 26') in front of said interlock sections (18).